

WHAT IS CLAIMED IS:

- 1                   1.       An isolated nucleic acid, comprising an IND1 polynucleotide  
2       sequence encoding an IND1 polypeptide at least about 70% identical to SEQ ID NO:2.
- 1                   2.       The isolated nucleic acid of claim 1, wherein the IND1 polypeptide  
2       comprises SEQ ID NO:2.
- 1                   3.       The isolated nucleic acid of claim 1, wherein the IND1  
2       polynucleotide comprises positions from about 2765 to about 3361 of SEQ ID NO 1.
- 1                   4.       The isolated nucleic acid of claim 3, wherein the IND1  
2       polynucleotide comprises SEQ ID NO:1.
- 1 ~~5.       An expression cassette comprising a promoter operably linked to~~  
2 ~~an IND1 polynucleotide sequence, or a complement thereof, encoding an IND1~~  
3 ~~polypeptide at least about 70% identical to SEQ ID NO:1.~~
- 1                   6.       The expression cassette of claim 5, wherein the IND1 polypeptide  
2       comprises SEQ ID NO:2.
- 1                   7.       The expression cassette of claim 5, wherein the IND1  
2       polynucleotide comprises positions from about 2765 to about 3361 of SEQ ID NO 1.
- 1                   8.       The expression cassette of claim 7, wherein the IND1  
2       polynucleotide comprises SEQ ID NO 1 ~~1~~ *B*
- 1                   9.       The expression cassette of claim 5, wherein the promoter is  
2       constitutive.
- 1                   10.      The expression cassette of claim 5, wherein the promoter is tissue  
2       specific.
- 1                   11.      The expression cassette of claim 10, wherein the promoter is a  
2       dehiscence zone specific promoter.
- 1                   12.      The expression cassette of claim 11, wherein the promoter  
2       comprises positions from about 1 to about 2764 or from about 3362 to about 3856 of SEQ  
3       ID NO:1.

1 *but B3* 13. A plant comprising a recombinant expression cassette comprising a  
2 promoter operably linked to a polynucleotide sequence encoding an IND1 polypeptide at  
3 least about 70% identical to SEQ ID NO: 1.

1 14. The plant of claim 13, wherein the polynucleotide sequence  
2 encoding the IND1 polypeptide is operably linked to the promoter in the antisense  
3 orientation.

1 15. The plant of claim 13, wherein the polynucleotide sequence  
2 encoding the IND1 polypeptide is operably linked to the promoter in the sense  
3 orientation.

1 16. The plant of claim 15, wherein the polynucleotide sequence further  
2 comprises a second polynucleotide sequence encoding the IND1 polypeptide wherein the  
3 second polynucleotide sequence is operably linked to a second promoter in the antisense  
4 orientation.

1 17. The plant of claim 13, wherein lignification is reduced in valve  
2 margin cells.

1 18. The plant of claim 13, wherein the promoter is a dehiscence zone-  
2 selective regulatory element.

19. The plant of claim 18, where in the regulatory element comprises  
positions from about 1 to about 2764 or *B* from about 3362 to about 3856 of SEQ ID NO:1.

1 *but B4* 20. A method of delaying fruit dehiscence in a plant, ~~the method~~  
2 comprising suppressing expression of an IND1 nucleic acid in the plant by introducing  
3 into the plant a recombinant expression cassette comprising a promoter operably linked to  
4 a polynucleotide sequence encoding an IND1 polypeptide at least about 70% identical to  
5 SEQ ID NO:2.

1 21. The method of claim 20, wherein the IND1 polypeptide comprises  
2 SEQ ID NO:2.

1 22. The method of claim 20, wherein the IND1 polynucleotide  
2 comprises positions from about 2765 to about 3361 of SEQ ID NO:1.

1 23. The method of claim 20, wherein the IND1 polynucleotide  
2 comprises SEQ ID NO:1.

1 ~~BS~~ 24. The method of claim 20, wherein the polynucleotide sequence  
2 encoding the IND1 polypeptide is operably linked to the promoter in the antisense  
3 orientation.

1 25. The method of claim 20, wherein the polynucleotide sequence  
2 encoding the IND1 polypeptide is operably linked to the promoter in the sense  
3 orientation.

1 26. The method of claim 25, wherein the polynucleotide sequence  
2 further comprises a second polynucleotide sequence encoding the IND1 polypeptide  
3 wherein the second polynucleotide sequence is operably linked to a second promoter in  
4 the antisense orientation.


1 27. The method of claim 20, wherein lignification is reduced in valve  
2 margin cells.

1 28. The method of claim 20, wherein the promoter is a dehiscence  
2 zone-selective regulatory element.

1 29. The method of claim 28, where in the regulatory element  
2 comprises positions from about 1 to about 2764 or from about 3362 to about 3856 of SEQ  
3 ID NO:1.

1 30. The method of claim 20, wherein the recombinant expression  
2 cassette is introduced into the plant using *Agrobacterium*.

1 31. A method of delaying fruit dehiscence in a plant, the method  
2 comprising suppressing expression of an IND1 gene in the plant by introducing into the  
3 plant a recombinant expression cassette comprising a polynucleotide sequence at least  
4 about 70% identical to positions from about 1 to about 2764 or from about 3362 to about  
5 3856 of SEQ ID NO:1.

1 32. The method of claim 31, wherein the polynucleotide sequence  
2 comprises positions from about 1 to 2764 or from about 3362 to about 3856 of SEQ ID  
3 NO:1. 

1 33. The method of claim 31, wherein lignification is reduced in valve  
2 margin cells.

